Ordering number : EN 857C

Monolithic Linear IC



No.857C

LA7806

B/W TV Synchronization, Deflection Circuit

The LA7806 is a multifunctional integrated circuit which is based on the internal circuit of the LA7800, incorporates various functions required for synchronization and deflection circuits of monochromatic television set, and operates on line voltage or from battery. This IC was so designed as to streamline the set by making the device more compact (DIP-16) and reducing the number of parts.

The LA7806 differs from the LA7800 in the following points.

- No X-ray protection circuit is used.
- The ground pins for horizontal and vertical are provided separately.
- No horizontal regulator is used.
- Synchronizing separation output is for vertical only.

Functions

- Synchro separator
- Horizontal AFC
- Vertical driver
- Horizontal oscillator
- Vertical oscillator
- Vertical blanking pulse making

Features

- Multifunction and small-size (DIP-16).
- Minimum number of parts required.
- Horizontal and vertical oscillators being stable to variation of ambient temperature and supply voltage owing to small warming-up drift.
- Small variation of horizontal oscillation frequency.
- Good linearity and interlace owing to DC bias at vertical output stage being sampling controlled within retrace time.
- Vertical blanking pulse width being freely set up according to peripheral parts.

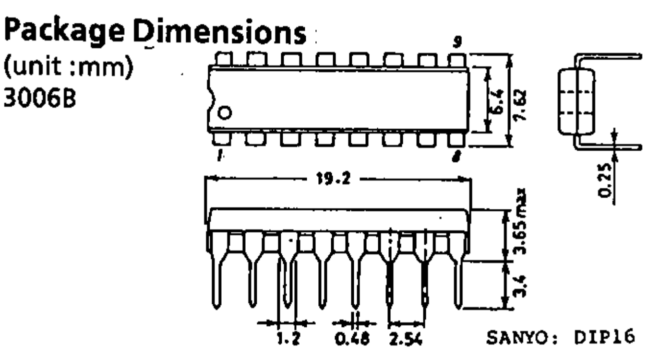
Maximum Ratings at Ta=25°C

				unit
Maximum Supply Voltage	V_{12}, V_{15}		14	V
Allowable Power Dissipation	Pdmax	Ta=60°C	450	mW
Operating Temperature	Topr		-20 to +85	°C
Storage Temperature	Tstg		-55 to +125	°C

Recommended Operating Condition at Ta=25°C

			unit
Recommended Supply Voltage	V_{12}, V_{15}	12	V

Package Dimensions
(unit : mm)
3006B



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Operating Characteristics at Ta=25°C, V_{12}=V_{15}=12V

Parameter	Symbol	Conditions	min	typ	max	unit
V_{CC12} Current Dissipation	I_{CC12}		10.0		19.0	mA
V_{CC15} Current Dissipation	I_{CC15}		6.0		11.0	mA
Vertical Frequency Pull-in Range			9.0		11.0	Hz
Vertical Free-running Frequency	f_V	f_V center 55Hz	50		60	Hz
Supply Voltage Dependence of Vertical Frequency		V_{12}=12±1V, 55Hz at 12V	-0.5		0.5	Hz
Temperature Characteristic of Vertical Frequency		Ta=-10 to +60°C	-0.028		0.028	Hz/°C
Vertical Driver Amplification Factor			4.0		7.0	times
Horizontal Free-Running Frequency	f_H	f_H center 15.750kHz	-750		750	Hz
Supply Voltage Dependence of Horizontal Frequency		V_{15}=12±1V, 15.750kHz at 12V	-50		50	Hz
Temperature Characteristic of Horizontal Frequency		Ta=-10 to +60°C	-3.4		3.4	Hz/°C
Horizontal Output Pulse Width		f_H=15.750kHz	21.5		26.5	μs
Horizontal Output Drive Current			4.2		7.8	mA

P_d max - Ta

Allowable Power Dissipation, Pdmax - mW

Ambient Temperature, Ta - °C

Sample Application Circuit

※ : Polyester-polypropylene film capacitor

Unit (resistance:Ω, capacitance:F)

Note)

1. The vertical output circuit is shown by the basic circuit.
2. The peripheral parts at pin 8 should be changed in accordance with the Ver. Out circuit conditions.
3. The limiting resistor (220 Ω : 1Vpp) at pin 14 should be changed in proportion to the magnitude of the input video signal.
4. In the time constant circuit (120k Ω 4.7uF) at pin 14, the time constant should be changed by changing the resistance value in accordance with the DC level of the input video signal and then by changing the capacitance value.

Peripheral parts at pin 8 (other applications)

	R1	C1	R2	C2
Line operate	220kΩ	0.01μF	68kΩ	0.068μF
Battery drive (pump-up)	220kΩ	0.0033μF	82kΩ	0.068μF